

REMARKS

Claims 1-3, and 8-11 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Wood and further in view of JP 3-230,849; claims 4-7 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Wood in view of JP '849 as applied in claim 1 above and further in view of either Sadamitsu or Itaya et al; and claims 12-19 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Wood and further in view of either Sadamitsu or Itaya et al.

The present Amendment is believed to put the application in condition for allowance. Notably, the amendments further emphasize the differences between the claimed subject matter and JP (1997) 09-29393 ("393") and JP (1997) 09-29394 ("394"), which appear to be more relevant prior art than the references cited. These applications (JP '393 and JP '394) were disclosed in the application and English translations of JP '393 and JP '394 are now submitted herewith for the convenience of the Examiner.

Turning first to the Wood reference, Wood discloses "a pair of brushes 18 and 20 in tandem" for contacting casting surfaces 16 of rotating casting drum 10. As stated, the brushes 18 and 20 are operated "in tandem". Col. 2, l. 61. Moreover, the brushes 18 and 20 are preferably of the same size and character; Wood expressly teaches that "the non-uniform brush 20 of spaced apart rows [of bristles] is the preferred embodiment of both brushes". Col. 5, ll. 3-4 (Emphasis added). This is because the "full bristled" brush 18, as shown in figure 1, "inhibits the full over-center rebound of the bristles due to the dense configuration whereas the spacing between rows of bristles is show in brush 20 allows the full rebound swing of the bristles". Col. 5, ll. 7-11.

Brushes 18 and 20 are driven by motors (not shown) which are in operation continually during the operation of the brushes in casting. This is evident from the following disclosure:

The force or pressure of the brushes is measured by a meter connected to the power source to the motors driving said brushes (not shown). By measuring the amperage drawn down by the electric motors the relative pressures between the individual brushes and the casting surface may be determined.

Col. 3, l. 64-Col. 4 l. 2. The measurement of the force or pressure in this way would not be possible unless the brushes were driven by the electric motors at all times the brushes were in operation during casting.

(There is no disclosure or suggestion in Wood of providing two brushes of different character to perform different functions in cleaning the casting surfaces of the

casting roll at different times during the casting operation. Therefore, to be sure, Wood is remote prior art from the presently claimed invention which has two brushes of different character: one a main brush and the other a sweeper brush. Moreover, in the claimed subject matter, the sweeper brush is positioned to contact the casting roll surface of the casting roll in advance of the position of the main brush relative to the casting surface of the casting roll. This is not disclosed or suggested by Wood.

Further, as previously pointed out, there is no mechanism for the main brush and/or the sweeper brush to move independently into engagement with the casting roll surfaces of the casting roll. Specifically, in Wood, both brushes 18 and 20 are moved into contact with the casting surfaces of the casting roll together by the threads of rod 40 threadably engaging downwardly extending projection 44. Col. 3, ll. 20-21. The angle of the brushes in contact with the casting surface 16 is provided by rotation of handle 34. Thus, contrary to present invention, the brushes 18 and 20 in Wood are moved into contact with the casting roll in unison and both brushes are intended to be operated in unison in contact with the casting roll through normal casting operation. Again, this teaching of Wood shows that Wood is remote prior art teaching directly contrary to the teachings of the presently claimed subject matter.

JP '849 is also remote prior art. In JP '849, a cast strip having excellent surface characteristics is provided by pushing brush rolls into contact with the casting surfaces of the casting drum, where the brushing rolls are axially divided with gaps between brushing rolls 1A and 1B. A second set of brushing rolls 10A, 10B and 10C, also divided in the axial direction, are positioned near the brushing rolls 1A and 1B but offset from the gaps in brushing rolls 1A and 1B. By this arrangement, the use in unison of brushing rolls 1A and 1B together with brushing rolls 10A, 10B and 10C provide for uniform brushing of the casting roll surface. As '849 points out, "by this method, the method of uneven polishing of the cooling drum surface [i.e. casting roll] can be eliminated".

Again, there is no disclosure or suggestion in the '849 reference of providing casting rolls of different characteristics for contacting the roll surfaces of the casting roll at different times and for different purposes. The '849 reference is also remote from the presently claimed subject matter.

Secondary references Sadamitsu and Itaya et al are even more remote prior art. Sadamitsu discloses a photoreceptor cleaning apparatus for an electrophotographic apparatus having a pair of rotating brushes enclosed within a brush box and engaging the photo sensitive drum. The brushes counter-rotate and the material is sweep from the photo

sensitive drum is sweep away from the brushes through a filtering bag within a suction box. Again, in Sadamitsu there are identical brushes that counter-rotate, and no suggestion of brushes of different characteristics to be used during different times in the operation of the apparatus. Itaya et al discloses a large brush cleaning device for an electrophotographic reproduction apparatus wherein a fur brush is contacted as the image receptor for removing electromagnetic toner. In Itaya et al, there is only one brush. None of the features deficient from Wood are disclosed or suggested by these secondary references.

Applicant respectfully submits that the closest prior art, and again prior art which does not disclose or suggest the presently claimed subject matter, is set forth in JP '393 and JP '394, English translations of which are enclosed. JP '393 and '394 making thin cast strip utilizing cooling drums 10 (i.e. casting rolls) where foreign matter adhering to the circumferential surfaces of the casting rolls is removed by rotating "brush rolls 5 having strands of diameters between 0.15 mm and 0.30 mm are employed in the initial stage of casting, and . . . after such initial stage of casting has passed, brush rolls 6 having strands of diameter 0.05 mm and 0.14 mm or in the alternative strands formed of copper alloy, are employed, whereby the foreign matter adhering to the circumferential surfaces of the cooling drums, [i.e. casting rolls] is efficiently removed without damaging the circumferential surface of the drum." JP '393 Translation at 3; JP '394 Translation at 4. JP '393 and '394 thus disclosed having rolls of different characteristics used at different times in the casting operation for different purposes that can be moved independently of one another.

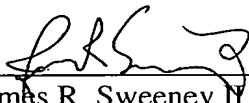
In JP '393 and JP '394, the brush rolls operated at the initial stage of the casting operation is behind the brush roll operated during the casting operation. In presently claimed subject matter, the sweeper brush which is operated at the beginning and ending of the casting operation is positioned in advance of the main brush relative to the casting surface of the casting roll. Further, in JP '393 and '394, the brush which is employed in the initial stage of the casting is driven to rotate in the same direction as the surface of the movement of the casting roll. This is seen by the drawing shown in the references. This is directly opposite to the movement of the sweeper brush in the presently claimed subject matter. Further, the brush roll that is operated during the casting operation in the JP '393 and '394 apparatus also rotates in the direction of the surface and movement of the casting roll; this is opposite to the instruction of dependant claim 9 in the presently claimed subject matter.

Applicant respectfully submits that presented claims 1-19 are in condition for allowance and should be allowed with the application past to issue. The cited referenced are

remote prior art from the presently claimed subject matter. Moreover, the presently claimed subject matter is non-obvious in view of the more relevant prior arts submitted herewith.

Respectfully,

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